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*Exhibiting and Judging*

# HONEY and BEESWAX

APIARY DIVISION, PLANT INDUSTRY BRANCH

Saskatchewan Department of Agriculture

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# Foreword

It is unfortunate that more beekeepers do not exhibit honey in fairs and exhibitions. There is considerable benefit to the honey industry in such exhibits. Not only do visitors to the exhibition see honey well prepared and attractively displayed but the exhibitor gains a new understanding and appreciation of the honey or beeswax when preparing it for exhibition.

A study of prize lists will indicate that prizes are awarded to the best honeys in the show. Prizes are more correctly awards for showmanship. Showmanship might be defined as the ability to make a good product better. The few extra points that gain the prize are usually awarded not for inherent qualities in the exhibit but for the extra care in preparation. The difference between a mere exhibitor and a showman is usually a matter of patience and attention to detail.

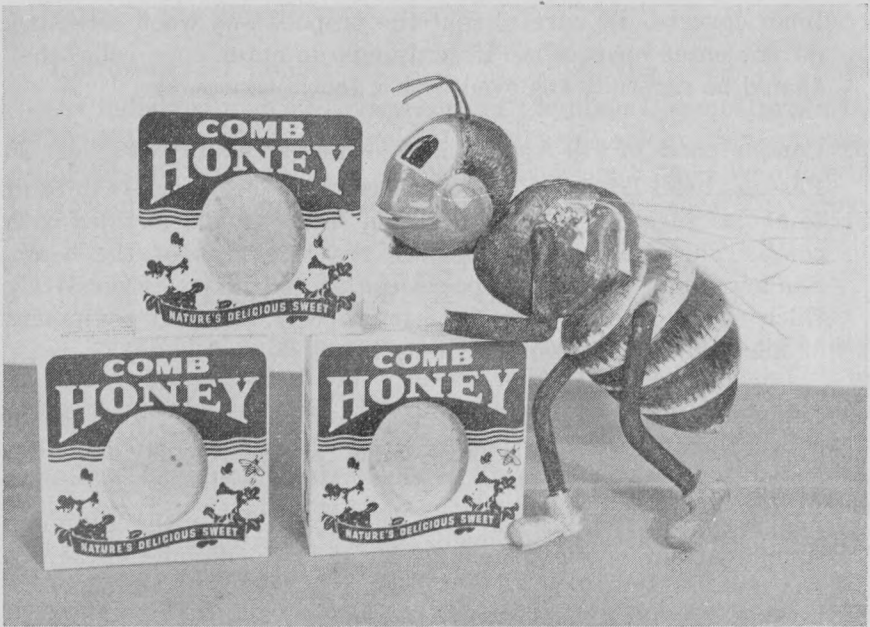
A uniform system of judging exists in Canada. This booklet explains the qualities that the judge considers when judging honey or beeswax and how these qualities may be attained. Honey may be exhibited in the comb or as extracted honey. Extracted honey is exhibited in its liquid or granulated condition.

The booklet has another purpose. It is written as a guide to those who may find themselves confronted with the task of judging a honey exhibit at a local fair.

## PHOTOGRAPHS—

All photographs by Photographic Services, Department of Travel and Information.

# COMB HONEY



(Comb Honey)

A large amount of honey was once eaten as honey comb. Comb honey is seldom seen in the large supermarkets of today. Connoisseurs of honey claim that the beeswax in comb honey helps retain some of the flavour and aroma associated with fresh honey. Operating an apiary for comb honey production requires careful attention to detail. Few beekeepers nowadays care to spend the time necessary to produce good comb honey. Comb honey exhibits add interest and variety to honey exhibitions.

## COMB HONEY CLASS (Sections)

Requirements—12 comb sections exhibited in cellophane wrappings or in cardboard cartons with cellophane windows.

### 1. Quality and Uniformity of Wooden Sections ..... 5

Here the judge is considering the wooden frame around the comb. Quality refers to the whiteness, polish, dovetailing, squareness, and lack of imperfections in the wood. Uniformity requires that all sections be of one type, i.e., 4"x5"; 4 $\frac{1}{4}$ "x4 $\frac{1}{4}$ " with beeway; or 4 $\frac{1}{4}$ "x4 $\frac{1}{4}$ " without beeway.

### 2. Cleanliness of Wooden Sections ..... 20

This refers to the removal of all propolis, burr comb and foreign material from the wooden sections. Use a knife blade and fine

sandpaper. Care must be taken not to damage the cappings. A narrow pointed blade is required for removing propolis from the inner corners. Be careful that the propolis and wood scrapings do not enter open cells. If scrapings do enter open cells, they should be carefully removed with a toothpick.

**3. Completeness of Fill Appropriate to the Sections Used ..... 20**

Passage holes from one side of the comb to the other are difficult to avoid. Ideally, the entire wooden frame should be filled with comb. The judge also considers the thickness of the comb. Shallow comb or empty spaces are scored down. Excessively thick combs due to the use of improperly matched equipment or misplaced fences would also be scored down.

**4. Completeness of Capping ..... 10**

Combs with uncapped cells of honey are scored down by the judge.

Leave the comb sections long enough to have the cappings completed but not long enough for them to become darkened.

**5. Cleanliness and Appearance of Cappings ..... 20**

The cells and the cappings which cover them are naturally white but become darkened as the bees add pollen and propolis to the wax.

As the wax becomes darker, it becomes stronger and more useful to the bees. Dark combs are less attractive and the longer the comb remains with the bees, the darker it will become. Comb honey must be removed from the hive as soon as the bees have filled and capped the comb sections. Dark combs lose points. White combs gain points. Cleanliness refers to the absence of propolis, wood scrapings or dirt on the surface of the comb or in open cells. Cappings should not be sticky with honey. Appearance refers to the whiteness and smoothness of the cappings. Mechanical damage to the comb in handling would be scored down. There is a wide variation in the appearance of comb sections produced by different colonies. The manner in which the cell is capped varies. Some colonies produce a capping that touches the honey in the cell. These cappings have a dull, greasy appearance. Preference is given combs with surfaces that are smooth, even, and snowy white in colour.

**6. Quality and Flavour ..... 10**

The granulation of comb honey lowers its quality as does the presence of pollen or bee parts in the comb or the use of heavy

foundation. Any fermentation would disqualify an exhibit. No points would be lost for flavour unless there was a disagreeable taste to the honey.

**7. Uniformity of Combs ..... 15**

As indicated under "Appearance of Cappings", combs produced by different colonies vary a good deal as to colour, completeness of fill, and appearance of cappings. There is a real advantage in getting the 12 comb exhibit sections from one colony if possible.

## **BEST FRAME OF HONEY**

Some local fairs have a class that calls for a comb of honey as removed from the hive. This is one of the easiest exhibits to prepare but the beekeeper or fair board should provide a wooden stand for holding the exhibit. Choose a comb completely filled and capped. The cappings should have an even surface and be white. Brood rearing darkens combs and the best comb for exhibition is one that has been constructed, filled and capped during a strong flow of light colored honey.

Take care not to damage the comb once it is removed from the colony. Let it hang free in a wooden box such as an apple box with cleats to prevent it from moving once it is in place. Scrape the wooden frame free of propolis and then wrap the comb in cellophane or Saran wrap to protect it from flies. The following is a suggested scale of points for judging a frame of honey comb.

### **BEST FRAME OF HONEY CLASS**

Requirements—1 comb from extracting super.

**1. Suitability of Wooden Frame ..... 10**

Frame should be properly nailed, with all corners at right angles and opposite sides parallel. There should be at least two horizontal supporting wires. Frame should be free of knots and splits that would weaken frame.

**2. Cleanliness of Wooden Frame ..... 15**

Frame should be clean, white wood, scraped free of propolis.

**3. Completeness of Fill ..... 25**

The comb should completely fill the frame and all cells should be filled with honey.

**4. Completeness of Capping ..... 20**

All cells of honey should be completely capped if possible.



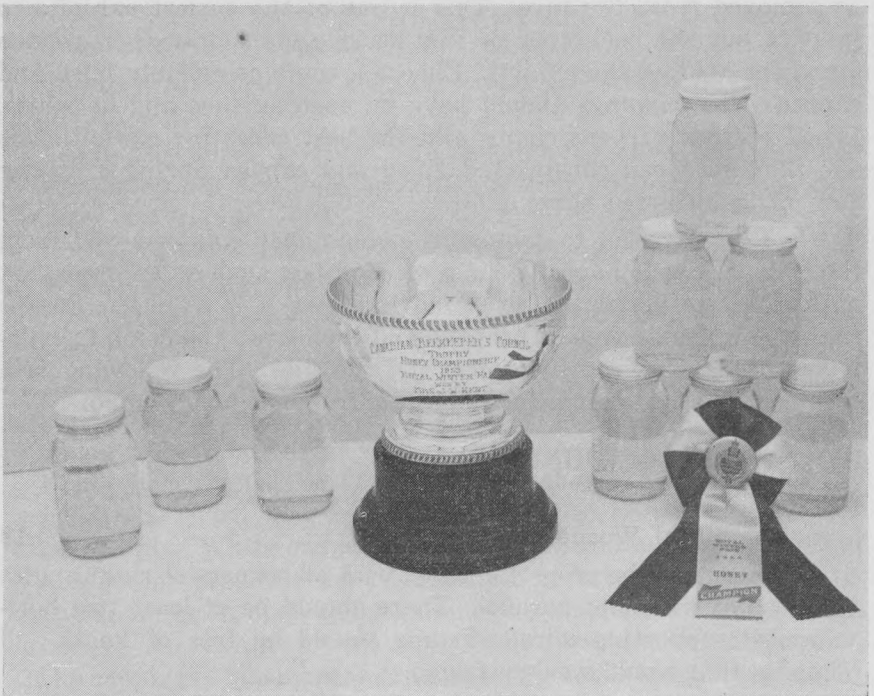
**5. Cleanliness and Appearance of Cappings ..... 20**

Cappings should be white without excessive travel stain and without mechanical damage, dust or dirt. Cappings should present a level, even surface over the entire comb.

**6. Quality and Flavour ..... 10**

Comb should be free of any brood or pollen. There should not be any noticeable difference in the honey in different parts of the comb. There should be no undesirable flavour to the honey. Honey in comb should be liquid, not granulated.

## EXTRACTED HONEY



(Canadian Beekeepers Council Rose Bowl Trophy won by Mrs. J. W. Kent, Pambrun, Sask.)

Honey ranges in colour from light to dark. Light coloured honey usually has a mild flavour. Dark honeys have strong flavours. The various competitive classes are based on this colour classification. The instrument used to designate the colour of a particular honey is the Dominion Honey Classifier. Exhibitors who do not possess a classifier may have samples of honey classified by their Provincial Apiarist.

The colour and flavour of the honey depends on the flowers visited by the bees. When the colony is able to obtain abundant nectar from one particular floral source the combs filled during this "honey flow" will likely contain one type of honey. When bees are visiting a variety of flowers or when the nectar is scarce, there will be an admixture of honeys within the comb. Some knowledge as to the bee pasture available at the time the comb was filled will give the exhibitor an idea as to the kind of honey the comb contains.

The best exhibits are usually planned well ahead and will usually be obtained from strong colonies. If possible, the colony should be supplied with a standard super of foundation or white drawn comb at a time when the bees are gathering vigorously from desirable flowers. Do not allow the bees to raise brood or store pollen in these combs. Avoid careless use of the bee smoker when manipulating the colonies lest ash be blown into the uncapped cells of honey. The smoker should first be shaken free of ash and a new fire rekindled to provide a cool, clean smoke.

One standard deep super of 9 or 10 combs should provide enough honey for two exhibits each consisting of 12 one-pound jars. Working with 50 pounds of honey allows for selection in making up the final exhibit. The combs should not be removed from the hive until they are at least two-thirds capped. Dust and dirt must be kept from the combs of honey after they are removed from the hive. The room used for preparing the exhibit should be warm, bright and clean and free from dust.

Many successful exhibitors use an extractor to remove the honey from the combs. To reduce air bubbles in the honey, the extractor should be turned slowly and for a longer time.

Less bubbles will probably result if the honey is scraped from the comb. Tack some clean galvanized screening onto a square frame made of clean, new lumber and fit this over a large, clean basin. Across this frame place a clean board to act as a rest for the comb. By resting one end of the comb on this board and using the edge of a large spoon, the cells may be scraped away from both sides of the foundation onto the screen. Allow the honey to drain from the wax. Cover with a cloth to keep out any dust.

The honey obtained in this manner will contain small particles of wax and must be heated and strained. Place the basin or pail containing the honey in another pan of water on the stove. Place strips of wood or sealer rings under the honey container so that it will not be in direct contact with the heat. Use a thermometer. Heat the honey to 100° - 110° F., gently stirring occasionally so that it is heated uniformly. Pour the warm honey gently into a pail lined with a fine nylon straining cloth, having about 100

mesh to the inch. Some exhibitors use a fine cotton cloth for straining. A container with a tap or honey gate at the bottom, such as a cream settling can, is best since it allows for easy filling of the jars. The straining cloth is lifted gradually at intervals, clothes pegs being used around the edge of the pail to hold the cloth. When the cloth reaches the surface, the wax and foreign material is removed with the cloth. Cover the strained honey and let it stand for a day or two in a warm place to allow minute bubbles to rise. Surface foam should be skimmed off before filling the glass jars.

Honey should be exhibited in standard 12 fluid ounce clear glass jars. Twelve fluid ounces of honey weigh 16 ounces avoirdupois. The proper glass honey containers with metal caps can be obtained from any bee supply company.

Check the jars for flaws, wash in a detergent and rinse in hot water to which a little vinegar has been added. Dry the jars, using a lint free towel. Do not submerge the caps in water. A wipe with a damp towel will remove any dust.

Pour honey into the jars by allowing it to run down the side of the glass jar. Pour carefully so that air bubbles are avoided. If the bulk honey container has not got a tap, two people should do the filling, one holding the bulk container and the other the glass jars. Spooning the honey into the jars is an excellent method of filling that prevents the formation of bubbles.

## LIQUID HONEY CLASS

Requirements — 12 1-lb. glass jars.

1. **Appearance and Uniformity of Containers** ..... 5  
*Appearance*—Judge considers serious flaws on glass, rusty or scratched tops, also stickiness on tops or glass.  
*Uniformity*—All containers and tops should be of identical size, shape and colour.
2. **Uniform Level of Fill** ..... 5  
 The air space should not be visible when the cap is in place and the jar is standing upright. The measurement from the honey surface to the top of the jar should be the same in all jars.
3. **Colour** ..... 5  
 If the colour of an exhibit is approaching the next lower classification, it will lose points. If a honey is entered in the wrong colour class it will be disqualified.
4. **Freedom from Crystals** ..... 15  
 Liquid honey that has started to granulate has an unattractive appearance. Honey will maintain its liquid condition if it is



heated to 160° F. in a hot water bath until all signs of granulation have disappeared and then cooled rapidly. Take care not to darken the honey by overheating. Place sealer rings or wood under the honey jars so that they will not be in direct contact with the heat.

**5. Freedom from Foreign Material ..... 15**

With proper straining and clean containers, there should be very few specks in the honey. Any specks that can be seen should be removed by means of a soda straw. Hold your index finger over the top of the straw as it is lowered into the honey. When the lower end is directly over the speck, remove your finger and some of the honey and the speck will rise into the straw. Close the top again and lower the straw over another speck. One straw will remove several specks if you start with the speck nearest the top and work towards those at the bottom of the jar. Hold your finger over the straw as you remove it from the honey.

**6. Freedom from Air Bubbles either in Suspension or as Froth. 15**

Air bubbles in honey are not as serious as foreign material but detract from its appearance. Try to avoid their creation by careful handling of the honey. Warming the honey will help bring bubbles to the surface as foam. Remove foam or froth with a teaspoon.

**7. Uniformity of Honey ..... 5**

Honey in all 12 jars should have the same density, flavour, colour and appearance.

**8. Brightness ..... 10**

Bubbles, granulation and dingy glass give an exhibit a dull appearance. Bubbles and granulation have been dealt with elsewhere. Jars may be given a sparkle by dipping in a hot water-vinegar solution and drying them on a lint free towel. Jars may be polished with a glass polish. Jars should be wrapped in paper napkins after polishing. Do not use newspaper or aluminum foil. Honey sometimes looks dull and loses points because it contains colloidal material over which the beekeeper has no control.

**9. Flavour and Aroma ..... 10**

Since people differ in their senses of taste and smell, too much emphasis is not placed on flavour and aroma. Points are lost if the honey has a disagreeable flavour.

**10. Density 17% or Less ..... 15**

Entries are marked down 1 point for each 1/10 of 1% moisture in excess of 17%. A refractometer is required to determine such degrees of moisture. A judge lacking a refractometer should upend the jars. In the light bodied honeys the bubble will rise more quickly than in the heavy bodied honeys. The size of the air bubble should be given consideration since the larger the air bubble the faster it will rise. The judge would give more marks to the heavier honeys.

## GRANULATED HONEY



(Royal Agricultural Winter Fair Trophy for Granulated Honey)

Granulated honey exhibits are prepared much the same as liquid exhibits. After straining, the liquid honey must be "seeded" to obtain a smooth, creamy texture. Liquid honey contains no crystals. Any crystals introduced into the liquid honey will beget crystals of a similar structure. By adding 10 - 15% of clean, smooth textured white honey we can be certain that the honey will have this same texture when granulated. The smooth granulated honey is mixed with the liquid honey and allowed to stand for about 24

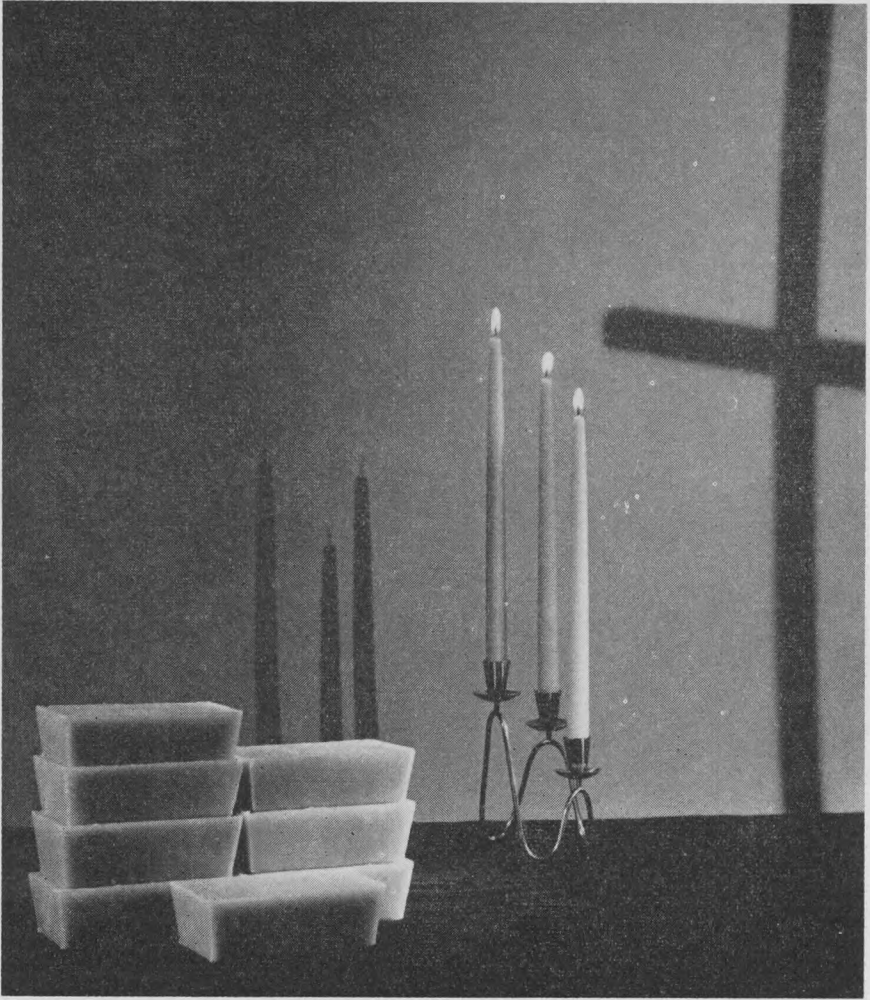
hours before filling the jars. This lets the air bubbles rise to the surface. Stand the jars on a level surface in a cool place. Granulated honey is best prepared at least three weeks before exhibiting.

### GRANULATED HONEY CLASS

Requirements — 12 1-lb. glass jars.

1. **Appearance and Uniformity of Containers** ..... 5  
Same as for liquid honey.
2. **Uniform Level of Fill** ..... 5  
Same as for liquid honey.
3. **Colour** ..... 5  
Granulated honey is usually a white honey class and should be considered such unless otherwise indicated. Color in this class is a visual comparison of the various exhibits in their granulated condition not as they would appear in their liquid condition in the classifier. The highest marks are given to the whitest exhibit.
4. **Firmness of Set** ..... 15  
Granulation should be complete and firm but not so hard that it will not spread easily.
5. **Freedom from Foreign Material** ..... 15  
Any specks must be removed when the honey is liquid. Small specks show clearly against a white background. Those that fall to the bottom of the jar will be magnified by the thick glass there.
6. **Freedom from Froth and Frosting** ..... 15  
Air bubbles will appear as froth on the surface or streaks of white frosting in the honey. They should be avoided as much as possible.
7. **Uniformity of Honey Including Texture** ..... 10  
The twelve jars should be uniform in all respects.
8. **Flavour and Aroma** ..... 10  
Same as for liquid honey.
9. **Texture of Granulation** ..... 20  
The honey should have a fine, palatable granulation. Texture is determined by rolling a small amount of honey against the palate with the tongue. A butter-like smoothness is desirable.

# BEESWAX



Beeswax

Careful selection is necessary in preparing a good beeswax exhibit. Wax from old brood combs should not be used. The best wax is obtained from white extracting combs. Propolis scrapings should be avoided as they darken the wax, make it sticky and lower its value.

Ideally the white wax cappings should be washed in a large tank of clear water to remove all traces of honey before being melted. Very few beekeepers bother to do this however.

Beeswax is highly inflammable and must be handled with care. Do not render beeswax over an open flame. Electricity is the

safest heat to use. The danger of spilling hot liquid wax is lessened by handling small amounts at a time. Eight-pound honey pails are excellent for the purpose. The pail of wax should never be in direct contact with the heat but should be placed on top of sealer rings in a bath of boiling water. When the wax is melted reduce the heat and let it stand in the hot water bath for an hour or so.

Strain the wax through a warm flannel cloth. Once straining has started, it should be continued until completed since the flannel will become clogged with hard beeswax once it cools. Pour into moulds when the temperature is about 150° F. A candy thermometer can be used.

Cake tins of pressed aluminum are ideal moulds for beeswax since they have no seams. They should be absolutely clean and placed on a level surface where they can remain undisturbed for about 12 hours. Ladle the wax into the moulds to avoid any dirt which might be at the bottom of the liquid wax. Place the same amount of liquid wax in all moulds and allow to cool slowly. A board placed over the mould will retard cooling and result in a more perfect cake of wax.

Remove the wax cake carefully after it is thoroughly cooled. Any sharp edges which may occur should be lightly scraped with a knife edge, removing only the sharp edge. This makes the cakes more attractive and lessens the likelihood of chipping. The wax should be wrapped in Saran wrap or similar plastic film to prevent it becoming soiled.

## BEESWAX CLASS

Requirements — 10 lbs. or more in one cake or not more than 10 1-lb. cakes.

1. **Colour** ..... 30  
The ideal colour for beeswax is described as straw-colored, prim-rose or canary yellow. This colour should be clear, not cloudy.
2. **Cleanliness** ..... 35  
Beeswax should be free from honey, propolis, bee parts or other impurities. If any specks are apparent on the bottom of the cake, they should be scraped away and wax cake re-melted.
3. **Uniformity of Appearance** ..... 20  
Cakes should be the same size, shape and colour. Select 15 to 20 lbs. of white raw wax cappings and process the entire lot at one time if possible. In this manner you should avoid the variations in colour, size of cake and cleanliness which may occur if each cake is processed at a different time.



#### **4. Freedom from Cracking ..... 15**

Beeswax shrinks in cooling. If cooled too quickly it will often show cracks in the upper surface. By covering the mould with a board and allowing it to cool at room temperature, cracking should be avoided. Handle the cakes carefully to avoid bruising and cracking.

## **SHIPPING HONEY OR BEESWAX EXHIBITS**

Exhibits must often be shipped hundreds of miles. If care is not taken in packing, the exhibit may become damaged and present a very poor appearance on the show bench.

### **Comb Honey Exhibits**

Each comb section should be neatly wrapped in cellophane. The combs should then be placed in cardboard comb section cartons with cellophane fronts. Each carton containing a comb section should be fitted tightly into a compartment of its own, surrounded on all sides by corrugated cardboard. The cardboard box containing the tightly packed comb sections is itself packed into a wooden or cardboard box containing excelsior so that the inner box is protected on all sides, top and bottom by excelsior.

### **Liquid or Granulated Exhibits**

The tops of the jars should be screwed on tight and each jar wrapped separately in paper napkins. The filler in the cardboard case should be removed and a sheet of corrugated cardboard placed in the bottom of the box. The filler is replaced and each wrapped jar placed in its own compartment. The box should now be sealed with paper tape and tied with strong cord. "FRAGILE" and "GLASS" stickers should be placed on the top and side of the shipping carton.

An express shipment of honey may be registered by paying a small additional fee. Registered packages receive special care and are more likely to arrive at their destination in good condition.

### **Beeswax**

Each cake of beeswax should be separated from the next by crumpled paper. There should be plenty of crumpled paper or excelsior between the cakes of wax and the cardboard box. "FRAGILE" stickers should be placed on the top and side of the box.

